

**PLANAR LIGHTWAVE CIRCUIT FOR
CONDITIONING TUNABLE LASER OUTPUT**

ABSTRACT

5 A planar lightwave circuit (PLC) module for conditioning light output from a tunable laser designed to generate light at a target wavelength. The PLC module has a substrate; a primary waveguide embedded in said substrate, said primary waveguide having an input end for receiving light from the tunable laser and an output end for outputting said light; and at least a first secondary waveguide embedded in said substrate, said first secondary waveguide receiving a first portion of said light from the tunable laser. A filter having a passband centered on the target wavelength is coupled to an output of the first secondary waveguide to receive said first portion of light, and generates a signal related to the intensity of said first portion of light in the passband centered on the target wavelength. This may be used by a processor and associated laser control circuitry for wavelength locking purposes.